## Image Detail

## Primary or Power State Standards:

A-REI.1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

A-REI.3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

A-REI.5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

## Secondary State Standards:

A-REI.12. Graph the solutions to a *linear inequality* in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a *system of* *linear inequalities* in two variables as the intersection of the corresponding half-planes.

A-REI.6. Solve systems of linear equations *exactly and approximately* (e.g., with graphs), focusing on pairs of linear equations in two variables

## Big Ideas of Unit:

* Solve linear equations and inequalities is one variable.
* Graph linear equations and inequalities in two variables.
* Solve systems of linear equations in two variables exactly and approximately.
* Create linear equations and inequalities in one variable and use them in a contextual situation to solve problems.
* Create equations in two or more variables to represent relationships between quantities.
* Graph equations in two variables on a coordinate plane and label the axes and scales.
* Write and use a system of equations and/or inequalities to solve real world problems.

## Essential Questions:

* How do I justify the solution to an equation?
* How do I solve an equation in one variable?
* How do I solve an inequality in one variable?
* How do I prove that a system of two equations in two variables can be solved by multiplying and adding to produce a system with the same solutions?
* How do I solve a system of linear equations graphically?
* How do I graph a linear inequality in two variables?
* How do I graph a system of linear inequalities in two variables?